

Version 161018b

2016 HyspIRI Science and Applications Workshop

NASA Decadal Survey Mission Concept

18-20 October 2016

Beckman Institute Auditorium (BIA), California Institute of Technology

1200 E California Blvd, Pasadena, CA 91125

TUESDAY, October 18, 2016

Time	Title	Speakers
8:00 AM	Registration Opens	
9:00 AM	Welcome and Objectives of the HyspIRI Science and Applications Workshop	Woody Turner
9:20 AM	Status of the HyspIRI Mission Concept	Robert Green, Simon Hook, Betsy Middleton
9:40 AM	Report on the 2016 HyspIRI Data Products Symposium	Betsy Middleton, Dan Mandl, Steve Ungar
10:00 AM	Status of Current Decadal Survey	Woody Turner
10:10 AM	Break/Picture	
10:40 AM	Forest Functional Traits from VSWIR Imaging Spectroscopy	Greg Asner
11:00 AM	Carbon Emissions from Biomass Burning	Simon Hook
11:20 AM	Toward Optimal Estimation in Earth Science Imaging Spectroscopy with Multivariate Uncertainty Analysis	David Thompson
11:40 AM	Decadal Survey Report: Earth Surface Geochemistry and Mineralogy: Processes, Hazards, Soils, and Resources	Wendy Calvin
12:00 PM	Lunch	
1:20 PM	The Future of Evapotranspiration: Global requirements for ecosystem functioning, carbon and climate feedbacks, agricultural management, and water resources	Joshua Fisher
1:40 PM	Global Measurement of Non-Photosynthetic Vegetation: Need and an Effort to Assess Potential Accuracy	Phil Dennsion
2:00 PM	Measuring the Earth's Surface Mineral Dust Source Composition for Radiative Forcing and Related Earth System Impacts	Robert Green
2:20 PM	An Update on CORAL: Precursor to HyspIRI Coral Reef Observations	Eric Hochberg / Michelle Gierach
2:40 PM	Directly attributing methane and carbon dioxide emissions using the next generation Airborne Visible/Infrared Imaging Spectrometer (AVIRIS-NG)	Andrew Thorpe
3:00 PM	Break	
3:20 PM	A Thermodynamic Paradigm For Using Satellite Based Geophysical Measurements For Public Health Applications	Jeff Luvall
3:40 PM	High Spatial, Temporal, and Spectral Resolution Instrument for Modeling / Monitoring Land	Dale Quattrochi (Jeff Luvall)
4:00 PM	Seasonal monitoring of LAI, canopy chlorophyll and carotenoid content by PROSPECT/DART radiative transfer inversion with AVIRIS imagery in a heterogeneous oak savanna.	Susan Ustin
4:20 PM	Mapping Changes in the Distribution of Aquatic Macrophytes in 2014-2015 in the Sacramento Delta with AVIRIS-ng Data.	Shruti Khanna
4:40 PM	Estimating Leaf Area Index in Shrublands With Imaging Spectroscopy: Statistical and Physical Models	Nancy Glenn
5:00 PM	Current Decadal Scientific Town Hall Initial Discussion	Robert Green, Simon Hook, Betsy Middleton
5:20 PM	Closing / Adjourn	

WEDNESDAY, October 19, 2016

Time	Title	Speakers
8:00 AM	Registration Opens	
8:40 AM	Terrestrial Ecosystems Information Data Product Conception, Formulation, Production	Natasha Stavros
9:00 AM	Biodiversity RFI / Scoping Study	Ryan Pavlick
9:20 AM	Band Parameters and Linear Mixing Models for Rapid Assessment of AVIRIS data over Geologic and Cryospheric Targets	Wendy Calvin
9:40 AM	Hyperspectral Remote Sensing in Detection of Biotic and Abiotic Stresses in Plants for Precision Agriculture	Keshav Singh
10:00 AM	A system to measure the data quality of spectral remote sensing reflectance of aquatic environments	Jianwei Wei

10:20 AM Break	
10:40 AM Monitoring Coastal and Wetland Biodiversity from Space	Kevin Turpie
11:00 AM Understanding anthropogenic methane and carbon dioxide point source emissions	Riley Duren
11:20 AM Overview of the AVIRIS-NG Campaign in India and the Diversity of New Environments Measured with Relevance to HsypIRI	Robert O. Green
11:40 AM Spectral Dimensionality of the HyspIRI campaign AVIRIS measurements	Joe Boardman/David Thompson
12:00 PM Lunch	
1:00 PM Recent ESTO Investments in Remote Sensing Technology	Sachidananda Babu
1:20 PM Developing Methods for Fractional Cover Estimation Toward Global Mapping of Ecosystem Composition	Dar Roberts
1:40 PM Using Imaging Spectrometry Measurements to Constrain Terrestrial Biosphere Model P	Paul Moorcroft
2:00 PM Poster Session	All
2:20 PM Poster Session	All
2:40 PM Poster Session	All
3:00 PM ECOSTRESS Mission	Simon Hook
3:20 PM ECOSTRESS Lab Performance	Bill Johnson
3:40 PM ECOSTRESS Science Plans	Josh Fisher
4:00 PM ECOSTRESS L2 Products	Glynn Hulley
4:20 PM ECOSTRESS L3 and L4 Products	Josh Fisher
4:40 PM ECOSTRESS Applications Activities	Christine Lee
5:00 PM Closing / Adjourn	

THURSDAY, October 20, 2016

Time	Title	Speakers
8:00 AM	Registration Opens	
9:00 AM	Benthic Retrieval with the AOP and IOP Models	Ron Fick
9:20 AM	NIRST Ready for Science and Beyond	Hugo Marraco
9:40 AM	Uncertainties in TIR Hyperspectral Image Cube Unmixing	Keshav Singh
10:00 AM	Defining and Characterizing Small Target Radiometry	Stephen Shiller
10:20 AM	Break	
10:40 AM	2016 HyspIRI Mission Concept Study: Combined VSWIR, TIR and IPM With Current Technology	Michael Mercury
11:00 AM	Hardware implementation of Lossless and Lossy Compression of Space-based Multispectral and Hyperspectral Imagery	Didier Keymeulen
11:20 AM	F/1.8 VSWIR-Dyson Imaging Spectrometer: Alignment, Calibration and Laboratory Measurements	Byron van Gorp
11:40 AM	Plans for the HyspIRI Volcano / Coral Airborne Campaign	Ian McCubbin
12:00 PM	Lunch	
1:20 PM	Spectral emissivity features of plants: Prospects for the Hyperspectral Thermal Emission Spectrometer (HyTES) sensor	Susan Meerdink
1:40 PM	EO-1 Hyperion: The EO-1 Hyperion Story	Steve Ungar
2:00 PM	Latest Hyperion Upload: ALI, OLI Synthesis, Texture Cam, Visual Salience	Steve Chien
2:20 PM	Update on the Aquatic Study Group	Kevin Turpie
2:40 PM	Occurrence of a New Basemetal Mineralization in Thalkedar Limestone, Kumaon	Himanshu Govil
3:00 PM	Break	
3:20 PM	An Overview of the Remote Sensing of Heterogeneous Volcanic Plumes and Clouds	Vince Realmuto
3:40 PM	The HyspIRI volcano airborne campaign: Development of a new infrared camera for data acquisition and validation	Mike Ramsey
4:00 PM	Current Decadal Scientific Town Hall Input From the Workshop	
4:20 PM	Current Decadal Scientific Town Hall Input From the Workshop	
4:40 PM	Summary and plans for next year	
5:00 PM	Closing / Adjourn	

Number POSTERS	Lead Author
1 Next Generation UAS Based Spectral Systems for Environmental Monitoring	P. Campbell
2 Toward a HypsIRI Volcanic Thermal Alert System	Greg Vaughan
3 Satellite Observations of SST-Induced Wind Speed Perturbations at the Submesoscale	Peter Gaube
4 Hyperspectral microscopy of cyanobacterial HABs: a novel approach to the collection of spectral data for the development of remote sensing algorithms.	David Allen
5 EO-1 data quality and sensor stability with changing orbital precession at end of a 16 year mission	Elizabeth Middleton
6 Chaco Canyon Cross-Cutting: Utilizing NASA Earth Observations to Identify Chacoan Community Signature Profiles throughout the Chaco Canyon to Help with Preservation and Protection Strategies	Dashiell Cruz
7 Space-borne target-mode observations of volcanic degassing at Kilauea Volcano using GOSAT	Florian Schwandner
8 HyTES Overview	Simon Hook
9 HyTES ER2 deployment plans and detector upgrades	Bjorn En
10 HyTES for Gas Studies	Glynn Hulley
11 HyTES for Geological Mapping	Kerry Nicholson
12 Monitoring of Harmful Algal Bloom Using Multi/Hyper-spectral Imageries	Yuanyuan Jia
13 Update on Hyperspectral Imager Suite (HISUI) onboard International Space Station (ISS)	Tsuneo Matsunaga